Special Issue

Advanced Anode Materials for Alkali-Ion Batteries

Message from the Guest Editors

Lithium-ion batteries (LIBs) are essential for powering many daily-used electronic devices, and keep gaining increasing interest because of their implementation in electric vehicles and their applicability in electric grid storage coupled with renewable energy sources. Although the electroactive materials that typically comprise Li-ion batteries are well-established, the significantly increased demand for LIBs raises concerns about the long-term availability, environmental implications, and cost of the critical raw materials used in LIB production. Additionally, finding more sustainable and low-cost options, such as the new emerging sodium-ion and potassium-ion batteries, has attracted significant attention. In this scenario, the incessant search for new materials and the improvement of the existing ones continues in order to meet the requirements and specifications for new applications. This Special Issue aims to gather recent research and advances on anode materials for alkali-ion batteries, tackling topics from lithium-ion batteries to the currently available commercial sodium-ion batteries, as well as emerging potassium-ion batteries.

Guest Editors

Dr. Maria Jose Piernas Muñoz
Inorganic Chemistry Department, Universidad de Murcia, Murcia, Spain

Dr. Maider Zarrabeitia
1. Helmholtz Institute Ulm (HIU), Helmholtzstrasse 11, 89081 Ulm, Germany
2. Karlsruhe Institute of Technology (KIT), P.O. Box 3640, 76021 Karlsruhe, Germany

Dr. Linghong Zhang
3M Company, St. Paul, MN, USA

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
materials@mdpi.com

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

Editor-in-Chief

Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

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